

IN THE DRAWING:

Please substitute the attached Replacement Sheets of drawing for the corresponding original sheets, bearing Figures 17A, 17B and 21.

REMARKS

This application has been reviewed in light of the Office Action dated May 2, 2007. Claims 1, 2, 4-7 and 9 are presented for examination, of which Claims 1, 7 and 9 are in independent form. Claim 3 has been canceled and its recitations incorporated into Claims 1, 7 and 9, and Claim 8 has been canceled; these actions are taken without prejudice or disclaimer of subject matter. Claims 2 and 4-7 have been amended to define still more clearly what Applicant regards as his invention. The drawings have been amended. Favorable reconsideration is requested.

In the outstanding Office Action, the Examiner required that Figures 3-18 and 21 be labeled "PRIOR ART". In view of the description of Figures 17A and 17B at page 2, and that of Figure 21 at page 8, those three figures have been so labeled. Applicant respectfully advises the Examiner that the other listed figures do not show the prior art, and therefore have not been so labeled. Withdrawal of this objection is respectfully requested.

The Examiner also has objected to Claim 3 (and, inferentially, to the specification) under 37 C.F.R. § 1.75(d)(1), and has rejected Claim 3 under 35 U.S.C. § 112, second paragraph, as being indefinite, due to a perceived inconsistency between the recitations of that claim, and the corresponding portion of the specification (identified by the Examiner as being at page 27, at least lines 22-26).

Claim 8 was rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Without conceding the propriety of this rejection, Applicant has canceled this claim to eliminate this as an issue. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 1, 2 and 4-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication 2002/0097456 A1 (Yamada et al.), and

Claim 3 was rejected under 35 U.S.C. § 103(a) as being obvious from *Yamada* in view of Japanese Patent Application Laid-Open 11-055535 (Ikeda).

Applicant submits that independent Claims 1, 7 and 9 are allowable over *Yamada* and *Ikeda*, for at least the following reasons.

As is described in greater detail in Applicant's specification, the well-known error-diffusion technique of halftoning works extremely well with monochromatic images, but encounters complex difficulties when an attempt is made to apply it to color images. If the technique is simply performed for each color component, the result is frequently very unsatisfactory in terms of overall image quality. A good deal of effort has been devoted to attempts to circumvent these problems, and to produce a halftone imaging technique that produces color images of the high quality that is expected by viewers. The present invention is directed to a particular improvement in this field, that achieves a significant enhancement in image quality, without an unacceptable increase in processing overhead.

According to the aspects of the present invention to which the present independent claims are directed, a certain specified type of image area where the image is represented by at least two color-component data, a decision is made to output data of a specific one of the color components. (An example of this feature is illustrated in Figures 19 and 20.)<sup>14</sup>

Independent Claim 1 is directed to an image processing method comprising the steps of inputting image data, deciding output data based thereon, and outputting the output data. The input image data, which represents an image, includes a plurality of color

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<sup>14</sup> It is of course to be understood that the claim scope is not limited by the details of this or any other particular embodiment that may be referred to.

components. In the deciding step, the output data is decided (determined) by referring to a table in which a correspondence between input data and the output data is stored. The reference to the table is based upon the input data, the input data having been generated from the image data by adding to the respective color components thereof, data distributed thereto based upon a color difference obtained in the processing of one or more previously-processed pixels. Claim 1 specifies that that color difference is generated by calculating the difference between the input data and the output data for such previous pixel(s). Moreover, according to Claim 1, in a case of an image in a specific area in which the image is represented by at least two color-component data (that is, at least two color-component are non-zero), the output data of color component of any one is decided in the deciding step.

By virtue of this process, it is possible to produce a high-quality image at high speed with an optimum dot configuration in accordance with multiple items of color-component data representing an entered image.

*Yamada* relates to a system that decides output cyan C and output magenta M values by comparing the sum ( $C_t + M_t$ ), where  $C_t$  is the result of adding an error  $C_{err}$  to input cyan data C, and  $M_t$  is the result of adding an error  $M_{err}$  to input magenta data M, where the errors are the result of threshold-processing. The *Yamada* apparatus outputs either the output cyan C value or the output magenta M value, as shown in areas (b), (c), (d) and (f) of Fig. 15.

In *Yamada*, however, there is no mention or suggestion of the deciding step recited in Claim 1. Applicant wishes to point out that the technology in *Yamada* corresponds to the background of the present invention, described in Applicant's own specification. In fact, in the *Yamada* apparatus, there is a possibility that the output will not

be suited for actual color components because the threshold for deciding the output cyan C and the output magenta M by using the sum of input cyan C and input magenta M is set. Moreover, if the threshold is set too finely, the conditional branching that is required in the processing also becomes more complex, and the processing load becomes increasingly heavy.

Since *Yamada* does not suggest the step of deciding the output value by reference to a table using the recited input value, and deciding any component as the output value in a specified type of area in the image where the image contains two color components, as recited in Claim 1, Applicant submits that Claim 1 is allowable over *Yamada*.

*Ikeda* relates to a technique of deciding a plurality of items of output color-component data based on error correction data. Even if *Ikeda* discloses what it is cited for, and even if that is combined with the *Yamada* apparatus in the manner proposed in the Office Action (and assuming for argument's sake that such combination would be a proper one), the result would not have the deciding step recited in Claim 1, and accordingly, Applicant believes that Claim 1 is allowable over those two documents, taken separately or in any permissible combination (if any).

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from Claim 1, and are therefore believed patentable for the same reasons. Since each dependent claim is also

deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and allowance of the present application.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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